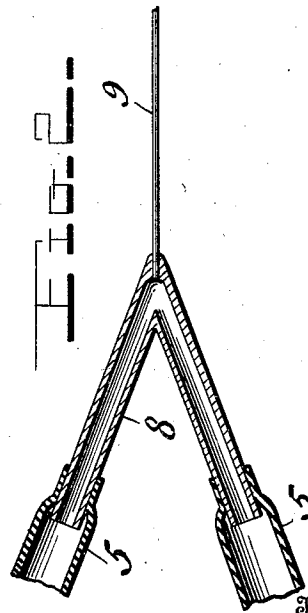
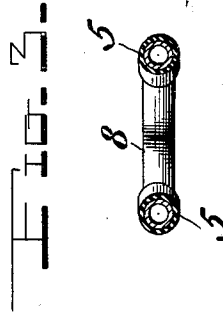
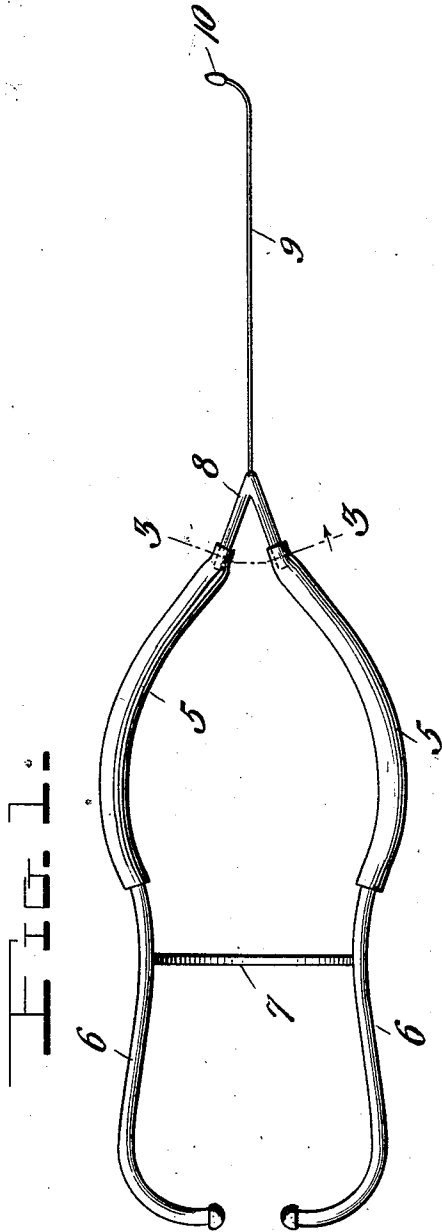


J. H. FOWLER.
 COMBINED STETHOSCOPE AND BOUGIE.
 APPLICATION FILED DEC. 3, 1909.

1,007,083.

Patented Oct. 31, 1911.



Witnesses

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JAMES HENDERSON FOWLER, OF HARRISON, ARKANSAS.

COMBINED STETHOSCOPE AND BOUGIE.

1,007,083.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed December 3, 1909. Serial No. 531,211.

To all whom it may concern:

Be it known that I, JAMES H. FOWLER, a citizen of the United States, residing at Harrison, in the county of Boone and State of Arkansas, have invented certain new and useful Improvements in Combined Stethoscopes and Bougies, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to a combined stethoscope and bougie which is primarily adapted for use in determining the presence of stones in the bladder.

15 The principal object of my invention is to provide an instrument of the above character wherein the senses of feeling and hearing may be combined whereby an instrument of great efficiency may be produced and results of unquestionable accuracy attained.

20 With these and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, hereinafter fully described and claimed, and illustrated in the accompanying drawings in which:—

25 Figure 1 is a plan view of an instrument embodying my invention; Fig. 2 is a horizontal section showing the means of connecting the bougie to the stethoscope tubes; and Fig. 3 is a section taken on the line 3—3 of Fig. 1.

30 Referring to the drawings, 5 indicates the resilient tubes of a stethoscope, to the ends of which the usual bell-shaped member having a diaphragm arranged therein is connected and is adapted to be positioned over the affected organ, the condition of which may be ascertained through the sound vibrations imparted to the diaphragm. These 35 sounds are conducted through the tubes 5 into the ear members 6 which have their ends bent inwardly toward each other and adapted to be inserted in the ears of the user. These members are usually formed of 40 hard rubber and are non-flexible. They are however held in spaced yielding relation by means of a bowed spring plate 7. The above described elements comprise the usual construction of a stethoscope, though in the 45 use of my invention in connection therewith this arrangement of parts may be widely varied and modified.

50 As will be observed from reference to Fig. 1 in the application of my invention I remove the diaphragm head or bell member and insert into the outer ends of the tubes

the extremities of the V-shaped sound or bougie 8. In order to firmly hold the bougie or sound in the tubes, the diameter of each bifurcation of the sound is the same as the 55 diameter of the rubber tubes, so that when inserted into the tubes the rubber tubes firmly grip the sound or bougie. The connected ends of the diverging tubular arms are drawn out into an ordinary flexible 60 bougie or sound, made of copper wire, with silver coat highly polished, with olive point size eleven (French scale). This member is adapted for insertion into the bladder of the patient, and is flexible so that it may be 65 used upon infant or adult with equal facility. The engagement of this member with any stones that may have formed in the bladder will cause the sound vibrations to be conveyed through the flexible member 9 70 to the tubular arms 8 from whence it is conducted through the stethoscope tubes 5 into the ear members 6. In the customary use of the bougie the sense of feeling alone is depended upon to determine the presence 75 of stones, but by combining the same with the stethoscope the sense of hearing can also be utilized in connection therewith. It will be obvious that results of far greater accuracy may thus be obtained as there is a 80 wide difference in the acuteness of the senses of hearing and feeling, and by the use of the stethoscope attachment to the sound the presence of stones so small as to actually escape the sense of touch, or of stones the surface of which are so smooth as to defy the 85 sense of touch, may be determined.

From the foregoing it will be seen that I have produced an instrument of great utility which is admirably adapted for the purpose 90 set forth, though it will be understood that the same principle may also be applied in other organical investigations. The instrument is simple, may be produced at a minimum expense and will obviate the liability 95 of an improper diagnosis. The bougie may be otherwise connected to the stethoscope tubes than as above set forth, the primary principle of the invention residing in the combination of the bougie with the stetho- 100 scope whereby the senses of feeling and hearing may be employed in the manner above described.

Having thus described the invention, what is claimed is;

1. An instrument of the character described comprising in combination resilient

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tubes having ear members inserted in one end thereof held in yielding spaced relation, the extremities of said members being inwardly bent and adapted for insertion in the ears of the user, connected tubes secured in the outer extremities of said resilient tubes, and a flexible bougie or sound secured to said tubes, substantially as and for the purpose set forth.

10 2. An instrument of the character described comprising, in combination, resilient stethoscope tubes having ear members secured to one of their ends, a bougie comprising a V-shaped tubular member having its

extremities frictionally engaged in one of the ends of said tubes, and a longitudinally extending flexible element secured in the point of connection of the arms of said V-shaped member, said flexible element having an enlarged head formed upon its free end, substantially as and for the purpose set forth. 15 20

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JAMES HENDERSON FOWLER.

Witnesses:

C. E. WILSON,

L. M. WHITESIDE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."